The PELLIS function according to [1] is defined as

$$P(x) = \frac{A}{x^2} + \frac{B}{x^3} + \frac{C}{x^5}\,, \tag{1}$$

with A, B, and C being constant multiplicative weights.

I have found an equation relating the HUBBLE constant H_0, π, e, and the golden ration φ with each other. All calculations were done with EXCEL®. In this case, A, B, and C are set equal to the HUBBLE constant H_0. Then, in a first step Equation 1 is written in the form

$$P(x) = H_0 \cdot \left\{x^{-2} + x^{-3} + \cdot x^{-5}\right\}\,. \tag{2}$$

The final equation is

$$\pi = \ln\left\{\left[\ln H_0 \cdot \left(\mathcal{D}_H^{-2} + \mathcal{D}_H^{-3} + \mathcal{D}_H^{-5}\right)\right]^2\right\}, \tag{3}$$

where $\mathcal{D}_H$ is the HAUSDORFF dimension of the 60-degree FIBONACCI word fractal in the form

$$\mathcal{D} = \frac{3 \cdot \log(\varphi)}{\log\left(\frac{3+\sqrt{13}}{2}\right)}\,. \tag{4}$$

φ is the golden ratio. From this it follows that H_0 is $\cong 74.870\,\mathrm{km\,s^{-1}\,Mpc^{-1}}$. This is in the range of values given in the table in [3]. With the exact value of H_0 from Equation 3, i.e. 74.869 851 427 390 3 the difference of π to π calculated is 1.000 000 000 000 1.

Of course, one can take this shifting of numbers and variables *ad absurdum*, and at some point one may start to drift in mathematical alchemy. Nevertheless, I took it a step further and found that with the help of the modified PELLIS equation, the quotient of the cosmological constant Λ and the density parameter for dark energy Ω_Λ can be described using the following formula:

$$3\pi = \ln\left\{\left[\ln A^p \cdot \left(\varphi^{-2} + \varphi^{-3} + \varphi^{-5}\right)\right]^2\right\}, \tag{5}$$

where p is given as

$$p = \sqrt{\frac{e}{\pi}}\,. \tag{6}$$

A is calculated according to [2] as

$$3 \cdot \left(\frac{H_{0_\mathrm{P}}}{c}\right)^2 = A\left(= \frac{\Lambda}{\Omega_\Lambda}\right) \tag{7}$$

with a value of 1.9651×10^{-52} and $H_{0\mathrm{P}}$ is given from Equation 3. Its value is $H_{0\mathrm{P}} = 74.870\,\mathrm{km\,s^{-1}\,Mpc^{-1}}$.
The value for 3π from Equation 5 divided through the theoretical value is 1.000 43. If A is multiplied with the value of Ω_Λ according to [2], i.e. 0.714, then Λ is equal to $1.4031 \times 10^{-52}\,\mathrm{m^{-2}}$.

References

[1] S. Pellis. Emergence of physical laws from golden–fractal topologies. *SSRN: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=5583612*, 2025. page 10, formula (10).

[2] Wikipedia. Cosmological constant. `https://en.wikipedia.org/wiki/Cosmological_constant`.

[3] Wikipedia. Hubble's law. `https://en.wikipedia.org/wiki/Hubble%27s_law`.